

### DETAILED ACTION

1. Claims 3, 8, 13 & 18 are pending in the application.
2. Claims 1-2, 4-7, 9-12, 14-17 & 19-33 have been canceled.

### EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Robert I. Solomon on 09/01/2009.

The Claims have been amended as follows:

- In Claim 3, lines 7-8 replace "...and creating a chirp sequence  $\underline{y}$  based on the chirp waveform..." **with**

"...generating a chirp sequence  $\underline{y}$  based on the chirp waveform; and performing channel estimation based on the resulting sequences  $\underline{m}_w$ ,  $\underline{l}_w$ , the chirp waveform and chirp sequence  $\underline{y}$ ..."

- **Replace Claim 8, lines 1-8 with**

"A receiver for performing channel estimation, the receiver comprising:

a receiving component configured to receive a time domain signal  $\underline{r}$  and a midamble sequence  $\underline{m}$ ,

a component configured multiply, element-to-element, the sequences  $\underline{m}$  and  $\underline{r}$  by a chirp waveform, the chirp waveform being based on the length of a fast Fourier transform (FFT) and denote the resulting sequences as  $\underline{m}_w$  and  $\underline{l}_w$  respectively;

a generating component configured to generate a chirp sequence  $\underline{y}$  based on the chirp waveform; and

a channel estimation component configured to estimate a channel based on the resulting sequences  $\underline{m}_w$ ,  $\underline{r}_w$ , the chirp waveform and chirp sequence  $\underline{v}$ ;

➤ **Replace Claim 13, lines 1-8 with**

"A wireless transmit/receive unit (WTRU) for performing channel estimation, the WTRU comprising:

a receiving component configured to receive a time domain signal  $\underline{r}$  and a midamble sequence  $\underline{m}$ ,

a component configured multiply, element-to-element, the sequences  $\underline{m}$  and  $\underline{r}$  by a chirp waveform, the chirp waveform being based on the length of a fast Fourier transform (FFT) and denote the resulting sequences as  $\underline{m}_w$  and  $\underline{r}_w$  respectively;

a generating component configured to generate a chirp sequence  $\underline{v}$  based on the chirp waveform; and

a channel estimation component configured to estimate a channel based on the resulting sequences  $\underline{m}_w$ ,  $\underline{r}_w$ , the chirp waveform and chirp sequence  $\underline{v}$ ;

➤ **Replace Claim 18, lines 1-8 with**

"A base station (BS) for performing channel estimation, the BS comprising:

a receiving component configured to receive a time domain signal  $\underline{r}$  and a midamble sequence  $\underline{m}$ ,

a component configured multiply, element-to-element, the sequences  $\underline{m}$  and  $\underline{r}$  by a chirp waveform, the chirp waveform being based on the length of a fast Fourier transform (FFT) and denote the resulting sequences as  $\underline{m}_w$  and  $\underline{r}_w$  respectively;

a generating component configured to generate a chirp sequence  $\underline{v}$  based on the chirp waveform; and

a channel estimation component configured to estimate a channel based on the resulting sequences  $\underline{m}_w$ ,  $\underline{r}_w$ , the chirp waveform and chirp sequence  $\underline{v}$ ;

***Allowable Subject Matter***

4. Claims 3, 8, 13 & 18 allowed over the "Prior Art" of record.
5. Claims 3, 8, 13 & 18 and re-numbered as claims 1-to-4 respectively are allowable over the prior art of record because the cited references do not contain the specified limitations (as recited in the examiner amended claims).

**Conclusion**

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SUDHANSHU C. PATHAK whose telephone number is (571)272-5509. The examiner can normally be reached on 9am-5pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on 571-272-3042.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Sudhanshu C Pathak/  
Primary Examiner, Art Unit 2611

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